

## //MAINTENANCE //REFURBISHMENT //NEW BUILD

### PROJECT WWTW CAPITAL GROWTH & MAINTENANCE



Working on behalf of an alliance partner, Stonbury carried out critical growth and maintenance works at a Wastewater Treatment Works in Scotland as a part of a capital maintenance programme. The works were required due to considerable population growth within the catchment area.

Scope of works:

- Construction of new Nitrifying Tertiary Filter (NTF) Pumping Station
- Installation of interconnecting pipework, chambers & fittings
- Construction of a new RC MCC base & kiosk
- Sitewide ducting
- Installation of draw pit
- Road extension and Kerbing works
- Repairs to existing biofilter copes and steps

Once all relevant permits had been obtained and service locating duties were carried out, the topsoil was stripped back, and the setting out and excavation works were completed. A detailed temporary works feasibility study was required for the NTF pumping station due to the requirement for an excavation depth greater than three meters. This evolved into a temporary works design prior to installation. Formwork and steel reinforcement was used for the MCC kiosk base and NTF pumping station, followed by a concrete pour for each base.

Precast concrete rings were then installed with a concrete jacket surround to complete the pumping station. The area was backfilled at each level, and the temporary shoring was removed along the way. Alongside the structure, the new valve chamber was constructed and backfilled before deep excavations for the

pipelines began. Vacuum excavation was used in some areas to ensure the team encountered zero strikes over the live power, water and chemical dosing services.

On completion of the final excavation works, the pipework was installed to connect all of the new structures and the new duct runs and storm return rising mains were installed across the site. This was a challenging task due to a large number of charted and uncharted services that were set at shallow depths. The team also constructed several road extensions, which were completed with the installation of road formation and kerbs and a tarmac finish.

The scope of the project involved approximately 2000m<sup>3</sup> of soil to be removed from site, however, Stonbury proposed screening this on-site using a riddle bucket attachment to produce topsoil that could be re-used for dressing. Not only did this approach result in savings both in terms of disposal costs and topsoil import costs, but the client was also delighted with the efforts to reduce carbon emissions and support their waste recycling KPI.

The site works were undertaken whilst operating within a live WWTW, this made planning the works particularly difficult as the client could not provide access to multiple areas of the site at any given time. However, despite this and the suspension of works in March 2020 due to Covid-19, works were delivered in line with the contract programme and to the client's satisfaction.